

Title (en)
PROCESS FOR PRODUCING HIGH-NITROGEN ULTRALOW-CARBON STEEL

Title (de)
VERFAHREN ZUR HERSTELLUNG VON HOCHSTICKSTOFFHALTIGEM STAHL MIT EXTREM NIEDRIGEM KOHLENSTOFFGEHALT

Title (fr)
PROCEDE SERVANT A FABRIQUER UN ACIER POSSEDANT UNE TENEUR ELEVEE EN AZOTE ET EXTREMEMENT BASSE EN CARBONE

Publication
EP 1342798 A1 20030910 (EN)

Application
EP 01270629 A 20011212

Priority
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• JP 2001000424 A 20010105

Abstract (en)
A method of producing a high nitrogen, ultra low carbon steel suitable to rolling material for use in cold rolled steel sheets having excellent age hardening property by an age hardening treatment after forming by working, with no defects in slabs or steel sheets, reliably, at a reduced cost and with a high productivity is proposed. <??>The method for producing a rolling material for use in ultra low carbon steel sheets at: $C \leq 0.0050$ mass % comprises; applying primary decarburization refining to molten iron from a blast furnace, then controlling the composition in the molten steel after primary decarburization refining to a range satisfying the following relation: $\langle DF \rangle \cdot \bar{A}_{\text{mass}\%N} - 0.15 \bar{A}_{\text{mass}\%C} \geq 0.0060$, </DF> subsequently conducting secondary decarburization refining to a ultra low carbon concentration region while suppressing denitridation using a vacuum degassing facility, then conducting deoxidation by Al and, further, controlling the composition such that $\bar{A}_{\text{mass}\%Al} \cdot \bar{A}_{\text{mass}\%N} \leq 0.0004$, N: 0.0050 to 0.0250 mass% and, preferably, with the amount of solid solute N being at a predetermined amount or more and then casting the molten steel continuously. <IMAGE>

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IPC 8 full level
C21C 7/04 (2006.01); **C21C 7/068** (2006.01); **C21C 7/10** (2006.01); **C22C 38/00** (2006.01); **C22C 38/04** (2006.01)

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